The Semi-quantitative Assessment of Dissolved Phosphorus, Some of the Rhizobium Isolates in Golestan Province

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Background & Objectives: Phosphorus plays an important role in the process of plant growth and nitrogen fixing legumes are in the family. High soil pH of the soil by plants, especially legumes country absorbing element is made difficult. Ability to solve the insoluble phosphorus by Rhizobium isolates can be an important feature is the selection of Rhizobium isolates for biological fertilizer. Insoluble phosphorus in this study to be solved in a number of indigenous Rhizobium Golestan province is semi-quantitative review.

Methods: For this reason, the of 4 sample bean nodules , 8 samples of soybean nodules,15 samples of chickpea nodules, 27 isolates of Rhizobium were isolated . Isolation and purification of Rhizobium on specific medium (YMA) and morphological and physiological tests (the bacteria shape, Gram reaction, oxidase, catalase, spore stain, restoring nitrate, salinity tolerance, production of H2S, tolerate pH (8, 9.5 and 4.5)) of the isolates were purified.

Result: The results showed that only 3 of 27 isolates of Rhizobium isolates were grown in the medium Rhizobium.ability to dissolve insoluble phosphates (SE) of Rhizobium isolates on the semi-quantitative methods Pikovskaya medium (PVK) were evaluated. The results showed that 10 isolates of 27 isolates, mostly from Rhizobium isolates were fast growing, inorganic phosphate were able to solve. Highest ability to dissolve insoluble inorganic phosphorus after 48 hours by Rhizobium isolates obtained from pea (9, 2 and 5) respectively. Influence the results Increasing incubation time on release of insoluble phosphate on PVK medium showed that the most insoluble phosphate solution (SE) after 168 hours (7 days) to isolates of chickpea (9, 2, 14, 15, 16 , 19, 5), bean (28) and soybeans(20, 3) respectively.

Keywords: Rhizobium; Phosphorus; Golestan